

Docket No. 39451-5C

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Thackeray et al.

Express Mail Label No. EV437825497US

Filed: Herewith

For: RADIATION SENSITIVE COMPOSITONS AND METHODS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Applicants file the above-identified application herewith. Please amend the application as follows.

Amendments to the claims being on page 2 of this paper.

Remarks begin on page 5 of this paper.

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This listing of claims will replace all prior versions of claims in the application.

Claims 1-40: (cancelled).

Claim 41. (new) A chemically-amplified positive tone photoresist, the photoresist comprising a resin, a photoacid-generating compound and an amine other than a trialkylamine.

Claim 42. (new) The photoresist of claim 41 wherein the amine is an aryl amine.

Claim 43. (new) The photoresist of claim 41 wherein the amine is a cyclic amine.

Claim 44. (new) The photoresist of claim 41 wherein the photoacid-generating compound is an iodonium compound.

Claim 45. (new) The photoresist of claim 41 wherein the photoacid-generating compound is an aromatic sulfonium salt.

Claim 46. (new) The photoresist of claim 41 wherein the resin is a phenol-based polymer.

Claim 47. (new) An article of manufacture comprising a wafer substrate having coated thereon a photoresist of claim 41.

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Claim 48. (new) A method for forming a photoresist image on a wafer substrate for the production of a microprocessor, comprising:

(a) providing a chemically amplified positive tone photoresist, the photoresist comprising i) a resin, ii) a photoacid-generating compound and iii) a compound that comprises one or more moieties selected from ether, ester and amide.

Claim 49. (new) The method of claim 48 wherein the compound iii) comprises one or more ether moieties.

Claim 50. (new) The method of claim 48 wherein the compound iii) comprises one or more ester moieties.

Claim 51. (new) The methods of claim 48 wherein the compound iii) comprises one or more amide moieties.

Claim 52. (new) The method of claim 48 wherein the photoacid-generating compound is an iodonium compound.

Claim 53. (new) The method of claim 48 wherein the photoacid-generating compound is an aromatic sulfonium salt.

Claim 54. (new) The method of claim 48 wherein substrate areas bared of the photoresist layer upon development are selectively processed.

Claim 55. (new) The method of claim 48 wherein substrate areas bared of the photoresist upon development are chemically etched.

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Claim 56. (new) The method of claim 48 wherein substrate areas bared of the photoresist layer upon development are plated.

Claim 57. (new) The method of claim 48 wherein the resin is a phenol-based polymer.

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REMARKS

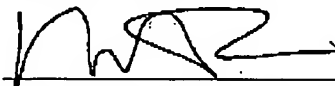
Claims 1-40 have been cancelled without prejudice, and claims 41-57 have been added. No new matter has been added by virtue of the amendments. For instance, support for the amendments appears e.g. at the paragraph bridging pages 11-12; page 13, last paragraph; page 27, first paragraph; and the original claims of the application.

By separate paper filed herewith, page 1 of the application is amended to provide the priority claim for the application..

Applicants file an Information Disclosure Statement herewith.

Early consideration and allowance of the application are earnestly solicited.

Respectfully submitted,



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Practitioner's Docket No. 39451-5C**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Thackeray et al.
Application No.: 10/783,631
Filed: February 20, 2004
For: RADIATION SENSITIVE COMPOSITIONS AND METHODS

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that the documents listed below were submitted via facsimile to
1-571-273-1381 to the United States Patent and Trademark Office to the attention of the
Commissioner for Patents, Mail Stop Amendment.

- (1) Amendment Transmittal;
- (2) Supplemental Amendment;
- (3) Terminal Disclaimer to Obviate a Double Patenting Rejection;
- (4) Supplemental Information Disclosure Statement;
- (5) Form PTO-1449;
- (6) European reference cited therein; and
- (7) Copy of previously filed Preliminary Amendment.

Dated: 03/23/2005


Deanna M. Rivernider

TOTAL NUMBER OF PAGES: 56

Should there be any problem with the transmission of the following document, please contact my
Assistant, Deanna Rivernider, at (508) 229-7364.

(Certification of Facsimile Transmission-page 1 of 1)

Practitioner's Docket No. 39451-5C**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Thackeray et al.

Serial No.: 10/783,631

Group Art Unit.: 1756

Filed: February 20, 2004

Examiner: M. Chapman

For: RADIATION SENSITIVE COMPOSITIONS AND METHODS

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

STATUS

2. Applicant is
[] a small entity. A statement:
[] is attached.
[] was already filed.
[X] other than a small entity.

EXTENSION OF TERM

NOTE: "Extension of Time in Patent Cases (Supplement Amendments) — If a timely and complete response has been filed after a Non-Final Office Action, an extension of time is not required to permit filing and/or entry of an additional amendment after expiration of the shortened statutory period."

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. 1.8(a))

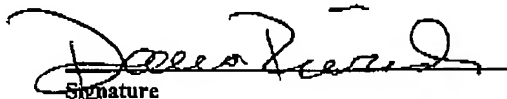
I hereby certify that, on the date shown below, this correspondence is being:

MAILING

☒ deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

FACSIMILE

☒ transmitted by facsimile to the Patent and Trademark Office at 1-571-273-1381


Signature

Date: 3/23/2005

Deanna M. Rivernider
(type or print name of person certifying)

(Amendment Transmittal—page 1 of 4)

If a timely response has been filed after a Final Office Action, an extension of time is required to permit filing and/or entry of a Notice of Appeal or filing and/or entry of an additional amendment after expiration of the shortened statutory period unless the timely-filed response placed the application in condition for allowance. Of course, if a Notice of Appeal has been filed within the shortened statutory period, the period has ceased to run." Notice of December 10, 1985 (1061 O.G. 34-35).

NOTE: See 37 C.F.R. 1.645 for extensions of time in interference proceedings, and 37 C.F.R. 1.550(c) for extensions of time in reexamination proceedings.

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply.

(complete (a) or (b), as applicable)

(a) ☐ Applicant petitions for an extension of time under 37 C.F.R. 1.136 (fees: 37 C.F.R. 1.17(a)(1)-(4)) for the total number of months checked below:

Extension (months)	Fee for other than small entity	Fee for small entity
<input type="checkbox"/> one month	\$ 120.00	\$ 60.00
<input type="checkbox"/> two months	\$ 450.00	\$225.00
<input type="checkbox"/> three months	\$1,020.00	\$510.00
<input type="checkbox"/> four months	\$1,590.00	\$795.00

Fee: \$ _____

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next item, if applicable)

☐ An extension for _____ months has already been secured. The fee paid therefor of \$ _____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request \$ _____

OR

(b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

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FEE FOR CLAIMS

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

(Col.1)	(Col. 2)	(Col. 3)	SMALL ENTITY						OTHER THAN A SMALL ENTITY	
Claims Remaining After Amendment		Highest No. Previously Paid For	Present Extra	Rate	Addit. Fee	OR	Rate	Addit. Fee		
Total	*	Minus	**	=	x \$25 = \$		x \$50 = \$	\$ 0		
Indep.	*	Minus	***	=	x \$100 = \$		x \$200 = \$	\$ 0		
[] First Presentation of Multiple Dependent Claim					+ \$180 = \$		+ \$360 = \$	\$ 0		
					Total Addit. Fee	\$	OR	Total Addit. Fee	\$	

* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.

** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest No. Previously Paid For" (Total or Indep.) is the highest number found in the appropriate box in Col. 1 of a prior amendment or the number of claims originally filed.

WARNING: "After final rejection or action (§ 1.113) amendments may be made canceling claims or complying with any requirement of form which has been made." 37 C.F.R. 1.116(a) (emphasis added).

(complete (c) or (d), as applicable)

(c) [X] No additional fee for claims is required.

OR

(d) [] Total additional fee for claims required \$ _____.

FEE PAYMENT

5. [] Attached is a check in the sum of \$ _____.
- [] Charge Account No. _____ the sum of \$ _____.
- A duplicate of this transmittal is attached.

FEE DEFICIENCY

NOTE: If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum, six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986, (1065 O.G. 31-33).

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6. [X] If any additional extension and/or fee is required, charge Account No. 04-1105

AND/OR

[X] If any additional fee for claims is required, charge Account No. 04-1105



SIGNATURE OF PRACTITIONER

Reg. No. 33,860

Peter F. Corless

(type or print name of practitioner)

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(Amendment Transmittal—page 4 of 4)